

Appl. No. : 10/678,853
Filed : October 03, 2003

REMARKS

No amendment is made in this response. Applicant respectfully requests reconsideration of the present application in view of the following remarks.

Claim rejections under 35 U.S.C. § 103 in view of Tani and Mund

Claims 1-7 have been rejected under 35 USC 103 (a) as being unpatentable over Tani et al. in view of Mund. Applicant respectfully traverses the rejection.

Claim 1 recites: A process for generating power comprising:

a first step of generating power from a fuel cell comprising a fuel electrode, an air electrode and an electrolyte membrane sandwiched therebetween wherein the fuel electrode is made of an alloy comprising platinum and a fuel is a liquid comprising a secondary alcohol, by directly feeding the fuel to the fuel electrode;

a second step of contacting the air electrode in the fuel cell with an oxidizable material and applying a current from an external electric source between the fuel electrode as negative and the air electrode as positive, after the first step; and

a third step of generating power from the fuel cell after the second step.

The Examiner states: "Tani et al teach a fuel is a liquid comprising a secondary alcohol (col.2, lines 64-67)". The Examiner errs in interpreting a secondary alcohol. Tani states: "a fuel cell having a system which generates hydrogen gas from gasoline" (column 2, line 65-66). Gasoline is composed of hydrocarbons and does not contain any secondary alcohols. Tani gives no indication of using a secondary alcohol as a fuel. Further, gasoline would not be subjected to the second step recited in claim 1 because by applying a current from an external electric source between the fuel electrode as negative and the air electrode as positive, the current is reversed, and the reversed current is of no use for gasoline which contains no secondary alcohols. Tani does not teach or suggest use of a secondary alcohol as a fuel. Further, Tani does not teach or suggest the second step recited in claim 1.

Further, the Examiner states: "Mund teaches applying a current from an external electric source between the fuel electrode and the air electrode (0006)". However, Mund teaches applying an electric voltage to at least one fuel cell unit for starting the fuel cell and does not teach or suggest applying a current from an external electric source between the fuel electrode as negative and the air electrode as positive. Mund teaches starting the fuel cell but does not teach

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reversing the current (which cannot start the fuel cell). Thus, Mund does not teach or suggest the second step recited in claim 1.

Furthermore, Mund states: "the cold start, i.e. starting up the installation after a prolonged idle phase, is one of the problems which has not yet been resolved. This is particularly true of The high-temperature PEM (HTM) fuel cell, for example a fuel cell of this type which, as its electrolyte, contains phosphoric acid, which has a freezing point of over 40°C." (Paragraph [0004] in col. 1) Gasoline used in Tani has a freezing point of about -90° to -100°C. Because gasoline has a much lower freezing point than phosphoric acid, gasoline does not have the cold start problem as described in Mund, and there is no sound base for combining the teaching of Mund with the teaching of Tani.

As described above, neither of Tani nor Mund teach or suggest the second step recited in claim 1, and thus, not all of the elements of claim are taught or suggested by Tani and Mund. Accordingly, claim 1 cannot be *prima facie* obvious over Tani and Mund. Further, because the fuel used in Tani and the fuel used in Mund are chemically very different, and there is no common problem, there is no motivation or suggestion to combine these. Accordingly, also for this reason, claim 1 cannot be *prima facie* obvious over Tani and Mund.

Claims 2-7 are dependent upon claim 1, and at least for this reason, claims 2-7 also could not be obvious over Tani and Mund. Applicant respectfully requests withdrawal of this rejection.

Claim rejections under 35 U.S.C. § 103 in view of Uchida and Mund

Claims 1-7 have been rejected under 35 USC 103 (a) as being unpatentable over Uchida et al and Mund. Applicant respectfully traverses the rejection.

The Examiner states: "a secondary step of contacting the air electrode in the fuel cell with an oxidizable material (0004)". The Examiner errs in interpreting the paragraph (0004). Uchida states: "a cathode reaction is usually oxygen reduction" (paragraph 0004, the 2nd sentence). Uchida discloses that oxygen is supplied as a reductable material, not an oxidizable material. Uchida only discloses a power generating step similar to the first step in claim 1. Uchida gives no indication of the second step recited in claim 1.

As discussed above, Mund fails to disclose the critical features recited in the second step. Therefore, even Uchida and Mund are combined, not all of the limitations recited in claim 1 are

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taught or suggested. Thus, claim 1 could not be *prima facie* obvious over Uchida and Mund. Further, as described above, Mund teaches starting the fuel cell, and does not teach or suggest reversing the current. The fuel cell of Uchida does not have the cold start problem, and thus there is no motivation or suggestion to combine these. Accordingly, also for this reason, claim 1 cannot be *prima facie* obvious over Uchida and Mund.

Claims 2-7 are dependent upon claim 1, and at least for this reason, claims 2-7 also could not be obvious over Uchida and Mund. Applicant respectfully requests withdrawal of this rejection.

CONCLUSION

In light of the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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